Montana Fish, Wildlife and Parks
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ENVIRONMENTAL ASSESSMENT CHECKLIST

PART 1. PROPOSED ACTION DESCRIPTION

Project Title: East Fork Reservoir Fish removal
Project Location: T14N R19E S11, 14; Fergus County

Description of Project:
FWP proposes to remove northern pike, blue gill and, if time permits, yellow perch from East Fork Reservoir starting in spring 2012, prior to the late summer draw down proposed by the City of Lewistown. Removals may also occur during and immediately after the East Fork drawdown. It is anticipated that 100 – 200 northern pike and less than100 bluegill will be removed, but under ideal sampling conditions the number of northern pike could be much higher.

East Fork is an on-stream storage reservoir that was constructed in the mid 1970's on East Fork Big Spring Creek for flood retention and recreation. It is 119 surface acres, has a storage pool of 1100 acre-feet and is about 25 feet deep. At maximum flood retention the pool is about 5,297 acre-ft. Mean outflow from the reservoir was 28.8 cfs during sporadic sampling from 1975 – 1985 (Natural Resource and Conservation Service unpublished data). The reservoir contains northern pike, yellow perch, bluegill, brook trout, white suckers and longnose suckers. Largemouth bass have been stocked but do not appear to have established a population. Stocking of rainbow or brown trout occurred up through 1987 and 1994, respectively; these trout species are currently not a measureable component of the existing fishery. The northern pike, yellow perch and bluegill were illegally introduced but provide a popular sport fishery, including an annual yellow perch derby. East Fork Big Spring Creek drains into Big Spring Creek, a premier trout stream, 8 miles downstream of the dam. The City of Lewistown proposes to drain East Fork Reservoir to allow repair of the damaged gate stem on the upstream face of East Fork Dam. The draw down proposal has previously undergone environmental review and permits have been issued to the City for the drawn down. Once the reservoir is drained the gate stem will be modified, reinstalled and the reservoir refilled.

For fish removals, field crews would utilize a variety of techniques to find and remove northern pike, yellow perch and bluegill from the project area. Suppression efforts are proposed for East Fork Reservoir and East Fork Spring Creek directly downstream of the reservoir. However, if northern pike are detected further downstream, efforts may be extended into Big Spring Creek. Techniques utilized could include gill nets, trap nets, seines, screw traps, trammel nets, electrofishing, angling, spearing, and others.

Need for project:
When the reservoir is drained, the best evidence indicates there will be minimal or no dead storage remaining in East Fork Reservoir. Therefore many fish in the reservoir may wash downstream into East Fork Spring Creek and Big Spring Creek. Fish from East Fork currently have access to Big Spring Creek and a 100-year flood on East Fork in 2011, which utilized the emergency spillway, likely flushed many fish downstream. However, fall 2011 gill netting in East Fork Reservoir found record high numbers of northern pike and increases in yellow perch from 2010. Some of the increase was likely influenced by a change in sampling sites.

Big Spring Creek, downstream of East Fork Reservoir, contains a premier trout fishery. Local trout anglers have expressed concern that draining the reservoir will result in increases of northern pike and yellow perch in Big Spring Creek due to the drawdown. The proposed project would likely mitigate any potential impacts and minimize some of the concerns expressed by concerned citizens. Northern pike are typically captured in very low numbers in Big Spring Creek during annual electrofishing surveys. The literature indicates northern pike can influence fish populations (Hunt 1965, McMahon and Bennett 1996). However, there is no evidence northern pike have had negative impacts to other fish populations in Big Spring Creek. This action would reduce the number of northern pike in East Fork and therefore has the potential to decrease numbers of northern pike flushing to Big Spring Creek. FWP estimated there were about 600 adult northern pike in 2004 and 30,000 yellow perch in 2005 in East Fork Reservoir. These numbers were likely under-estimates due to gear bias in fish catch, but catch rates indicate northern pike numbers have decreased and yellow perch numbers increased in recent years. Trapping success varies greatly with weather conditions, but about 100 adult northern pike and 2000 yellow perch could be captured in a week of spring trapping. With additional effort it may be practical to remove about twice that prior to reservoir draw down.

Authority:
Section 87-1-201 (1) of the Montana Code Annotated (MCA) requires FWP to supervise all wildlife and fish in the state of Montana. The Department may spend money for the protection, preservation, management, and propagation of fish. Section 87-1-201(3), MCA

Other groups or agencies contacted or which may have overlapping jurisdiction:
City of Lewistown

References:

Hunt, R. L. 1965. Food of northern pike in a Wisconsin trout stream. Transactions of the American Fisheries Society. 94 (1):95-97.

McMahon, T. E. and D. H. Bennett. 1996. Walleye and northern pike: boost or bane to Northwest fisheries. Fisheries 21(8):6-13.

PART 2. ENVIRONMENTAL REVIEW

Table 1. Potential impact on physical environment.

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Unique, endangered, fragile, or limited environmental resources				X		X
2. Terrestrial or aquatic life and/or habitats			X			X
3. Introduction of new species into an area				X		
4. Vegetation cover, quantity and quality				X		
5. Water quality, quantity and distribution (surface or groundwater)			X			X
6. Existing water right or reservation				X		
7. Geology and soil quality, stability and moisture				X		
8. Air quality or objectional odors			X			X
9. Historical and archaeological sites				X		X
10. Demands on environmental resources of land, water, air & energy				X		
11. Aesthetics			X			X

Comments:

1. No endangered or threatened species are known to rely on the area. This work is proposed to reduce the possibility of impacts to the premier trout fishery in Big Spring Creek and has a potential benefit to that population.

2. East Fork Reservoir is scheduled to be drained in 2012, which will have far greater impacts on the East Fork fish populations than mechanical removal of northern pike, blue gill and yellow perch. The proposed methods will not eliminate all northern pike and yellow perch from the Reservoir. Blue gill are rare in East Fork and the combination of draining and the proposed removal may eliminate them from East Fork Reservoir. This effort would have the potential to decrease the numbers of transient northern pike in Big Spring Creek, which may reduce impacts to Big Spring Creek trout populations. It is unlikely the removal of yellow perch would impact downstream fish populations.

5. Fish carcasses would be returned to East Fork Reservoir and sunk. If large numbers of yellow perch are dispatched there could be a temporary spike in productivity.

8. The fish would be sunk in the water but under certain weather conditions it is likely some of the carcasses will rise to the water surface. This could temporarily impact smell and aesthetics.

9. There will be no ground disturbance with this project.

11. See 5 and 8 above.

Table 2. Potential impacts on human environment.

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Social structures and cultural diversity				X		
2. Changes in existing public benefits provided by wildlife populations and/or habitat			X			X
3. Local and state tax base and tax revenue				X		
4. Agricultural production				X		
5. Human health				X		
6. Quantity and distribution of community and personal income				X		
7. Access to and quality of recreational activities			X			X
8. Locally adopted environmental plans & goals (ordinances)				X		
9. Distribution and density of population and housing				X		
10. Demands for government services				X		
11. Industrial and/or commercial activity				X		

Comments

2. This project is proposed as an effort to reduce potential impacts to the premier trout fishery in Big Spring Creek. It is anticipated that northern pike numbers in East Fork Reservoir could be reduced by as much as 25% by this effort. Draining East Fork Reservoir as planned by the City of Lewistown in 2012 will drastically reduce fish numbers in East Fork, which will result in much higher impacts on East Fork fisheries than those proposed here.

7. See 2 above.

Does the proposed action involve potential risks or adverse effects which are uncertain but extremely harmful if they were to occur? NO

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant? NO

Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action when alternatives are reasonably available and prudent to consider. Include a discussion of how the alternatives would be implemented:

The "No Action" Alternative would likely result in more northern pike, blue gill and yellow perch entering Big Spring Creek. The best available information indicates that few northern pike would stay in Big Spring Creek for even a short time. However it is likely that they would consume some trout while flushing downstream. It is possible, but unlikely that high numbers of pike may temporarily reduce trout in Big Spring Creek. The other two species are even less adapted to the cold, fast water of Big Spring Creek and would be flushed downstream. It is highly unlikely that yellow perch would impact the trout population. Under this alternative, fish populations in East Fork Reservoir would not be impacted until after the reservoir was drawn down in late summer.

Proposed Alternative: Dispatch northern pike and blue gill, and, if time permits, yellow perch from East Fork in 2012 prior to reservoir drawn down. Sink the carcasses in East Fork Reservoir. Fish removals may also be done during and immediately after drawn down downstream of East Fork. Fish collected from Big Spring Creek and East Fork Spring Creek would be buried. This alternative poses the least risk to downstream fishes, would have limited impacts to East Fork Reservoir fisheries if the draw down was postponed and utilize fisheries personnel in a cost-effective manner.

Chemical treatment: This option would use a toxicant, such as rotenone, that would be applied to the reservoir prior to draining. This would be expensive, would likely not result in long term changes to the East Fork Reservoir fishery and would be more risky to the downstream fishes than simply draining the reservoir. Costs for chemical treatment (rotenone) and detoxification (potassium permanganate) would likely exceed $10,000 for supplies and would involve several weeks of personnel time. Furthermore, any chemical treatment carries some risk (though limited) of impacts to downstream fisheries by the rotenone or the detoxifying agent. We determined there would be less risk involved for downstream fisheries by draining the reservoir without chemical treatment. It is unknown when most of the fish would leave the reservoir; so treating at a very low pool may not prevent most of the fish from going downstream.
Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency: No permits should be needed for this project.

Individuals or groups contributing to, or commenting on, this EA:
EA prepared by: Anne Tews & George Liknes
Date Completed: February 14, 2012
Email address for comments: antews@mt.gov
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